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A Low Inflation Surprise for U.S. Monetary Policy

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*Any opinions expressed here are my own and do not necessarily reflect those of the
Federal Open Market Committee.*

Introduction

Key themes in this talk

- Background on U.S. monetary policy and the Federal Open Market Committee (FOMC)
- Post-recession low-growth regime in the U.S.
- Recent low inflation in the U.S.
 - Connection to global commodity markets
 - Relationship with unemployment
- Upgrades to the global growth outlook and the implications for the value of the U.S. dollar
- Implications for near-term U.S. monetary policy: The current level of the policy rate is likely to remain appropriate over the near term.

Background on U.S. Monetary Policy

Background on the Fed

- The Federal Reserve (“the Fed”) is the central bank of the U.S.
- The Fed provides regulatory services for banks operating in U.S. jurisdictions, provides payments services, conducts U.S. monetary policy and provides services to the U.S. Treasury.
- The Fed is the third attempt at a central bank for the U.S.—the first two attempts failed.
- Because of this, the Fed has a decentralized structure that includes 12 Federal Reserve Banks across the country.

The structure of the Federal Reserve

- The Fed can be thought of as having three components:
 - The Board of Governors in Washington, D.C., with seven seats appointed by the U.S. president and confirmed by the Senate
 - The Federal Reserve Bank of New York, interfacing with U.S. financial markets
 - Eleven “Main Street” Reserve Banks, bringing important input from around the country to key Fed decisions
- The monetary policy decisions are made by the FOMC, which consists of the seven governors and the 12 bank presidents.

The FOMC's goals and instruments

- The Committee sets a key interest rate, the “policy rate,” which influences national and global interest rates.
- In recent years, the Committee has also purchased large quantities of government securities and mortgage-backed securities as a supplementary policy.
- The Committee's goals include good labor market performance and an inflation target of 2 percent.
- Financial stability is sometimes considered as an additional goal, but can be more directly addressed through regulatory policy. This remains a hot topic.

The current macroeconomic situation

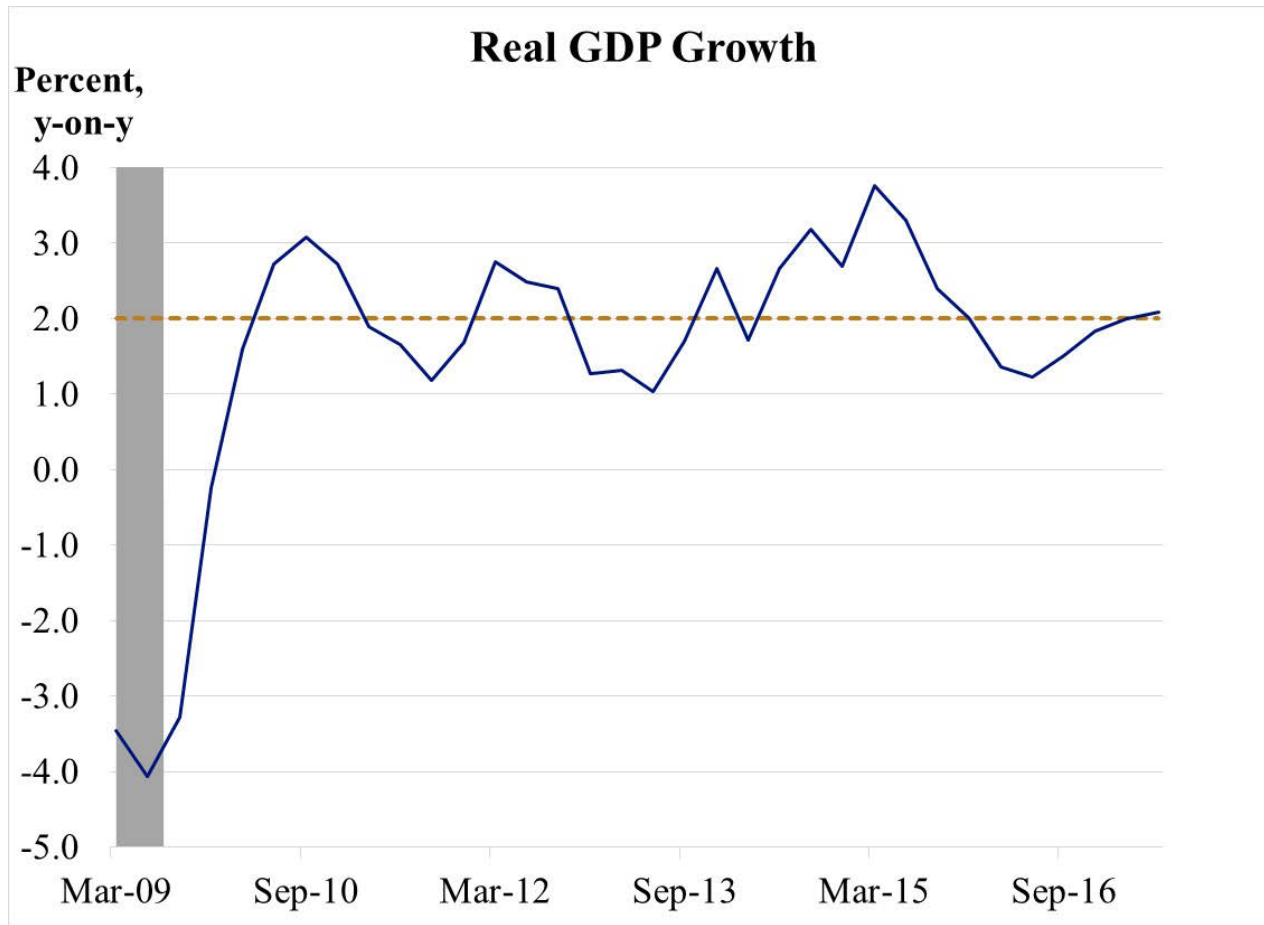
- The Committee has a large staff and closely tracks data on the U.S. and the global economy.
- Recent U.S. economic growth, measured by the percentage change in real GDP from one year earlier, has been about 2 percent, which is slow by U.S. historical standards.
- Recent labor market outcomes have been relatively good, with the U.S. unemployment rate at 4.3 percent.
- Recent inflation outcomes have been unexpectedly low, below the inflation target of 2 percent.

Low Growth

U.S. real GDP growth in 2017

- The data since the financial crisis suggest that the U.S. has converged to 2 percent real GDP growth.
- The current estimate for U.S. real GDP growth in the first half of 2017 is 1.9 percent at an annual rate.
- Second-quarter real GDP growth showed some improvement from the first quarter, but not enough to move the U.S. economy away from a regime characterized by 2 percent trend growth.
- The 2 percent growth regime appears to remain intact.

The 2 percent growth regime



Source: Bureau of Economic Analysis. Last observation: 2017-Q2. The shaded area indicates NBER recession.

Low Inflation

U.S. inflation in 2017

- The U.S. inflation rate has been below the 2 percent inflation target since 2012.
- Recent inflation data have surprised to the downside and call into question the idea that U.S. inflation is reliably returning toward target.
- In the following table, I focus on measures of inflation that try to control for particularly volatile movements in individual prices.

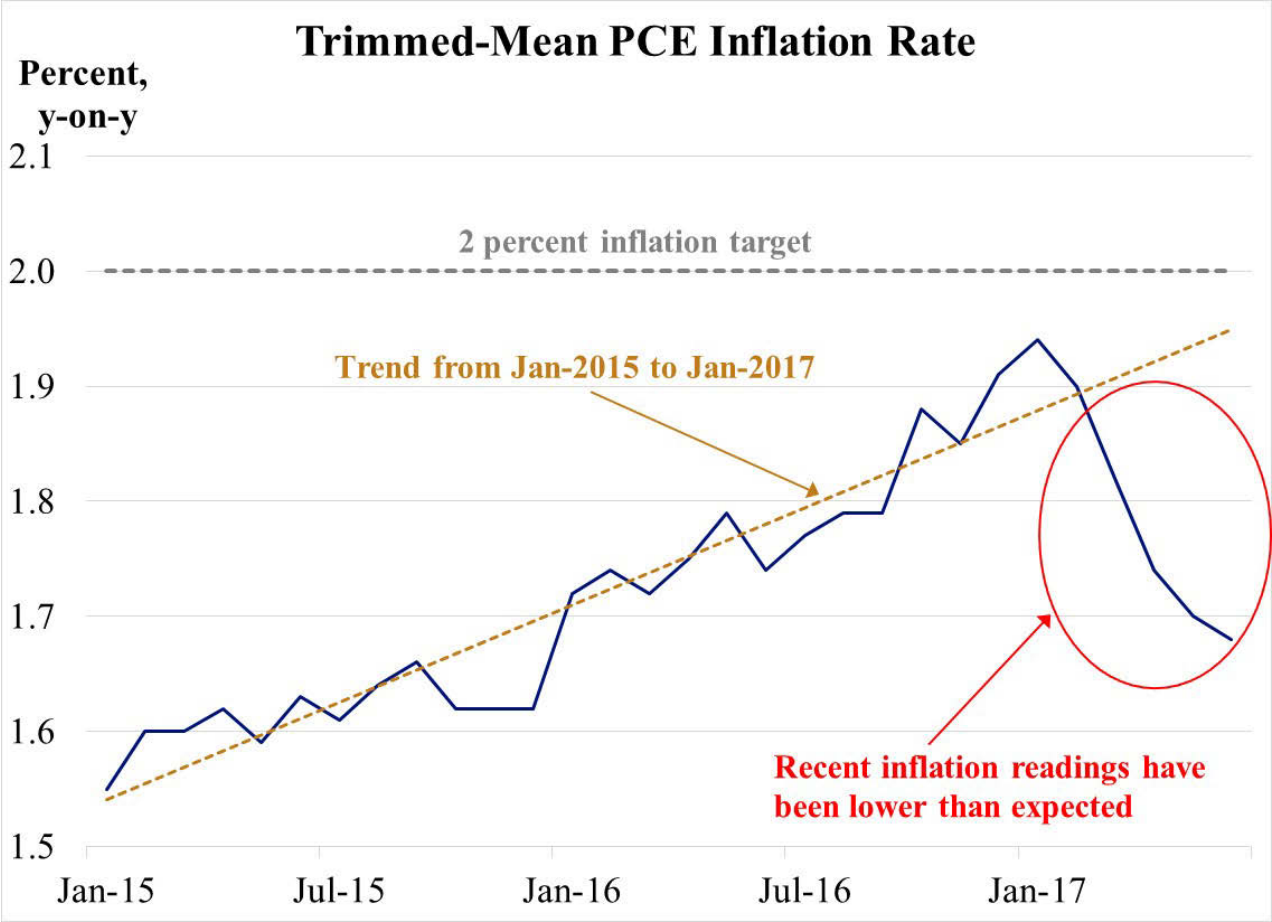
Inflation readings are lower

Inflation measure	Dec-2016	Last obs.	Difference
Sticky CPI (FRB of Atlanta)	258	212	-46
Median CPI (FRB of Cleveland)	250	218	-32
Core CPI	220	170	-50
Trimmed-mean PCE (FRB of Dallas)	191	168	-23
Core PCE	187	150	-37

Values are expressed in basis points. Inflation rates are measured as percent changes from one year earlier.

Sources: Bureau of Labor Statistics, FRB of Cleveland, FRB of Atlanta, Bureau of Economic Analysis, FRB of Dallas and author's calculations. Last observation: June 2017.

Trimmed-mean PCE inflation lower than expected



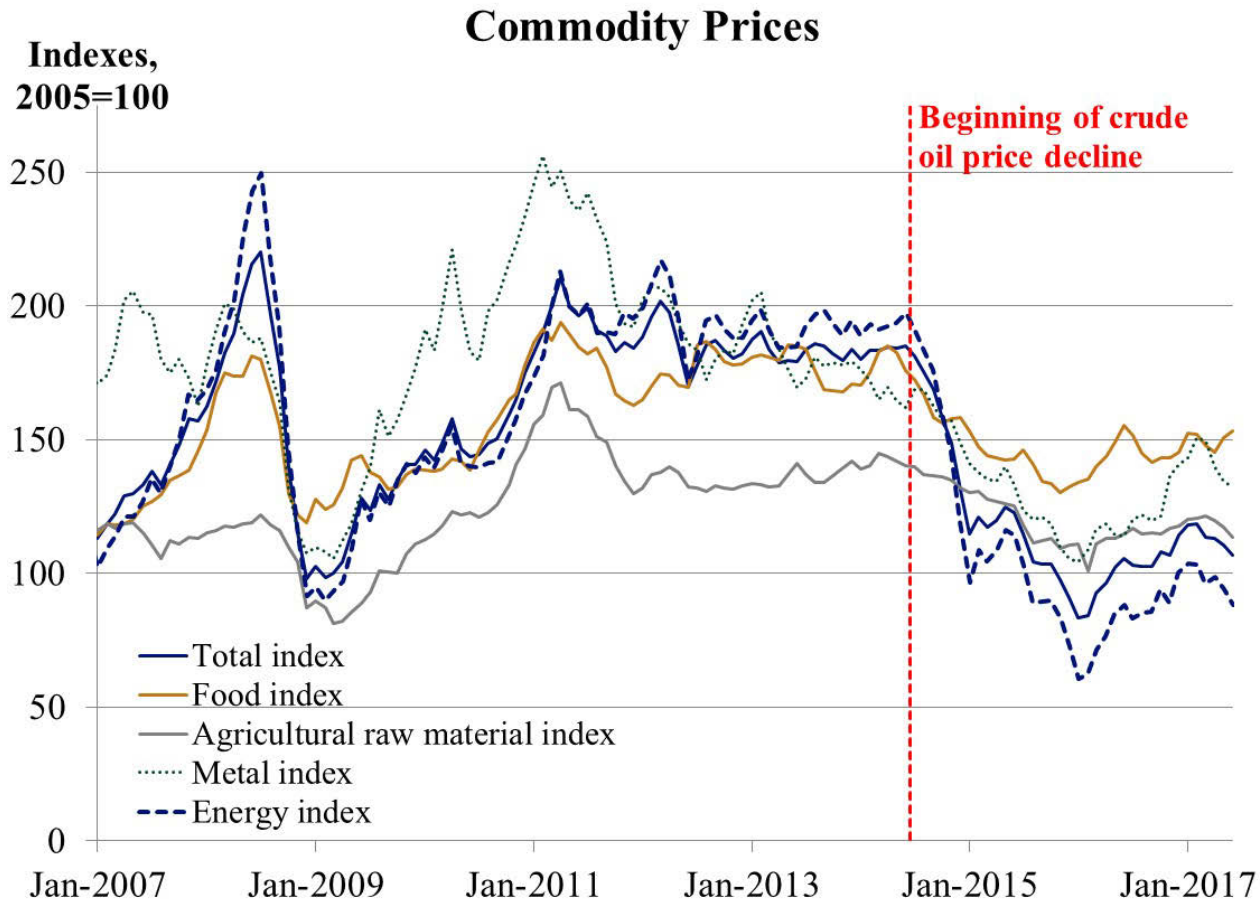
Sources: FRB of Dallas and author's calculations. Last observation: June 2017.

Global Commodity Prices and U.S. Inflation

Influence of global commodity prices on U.S. inflation

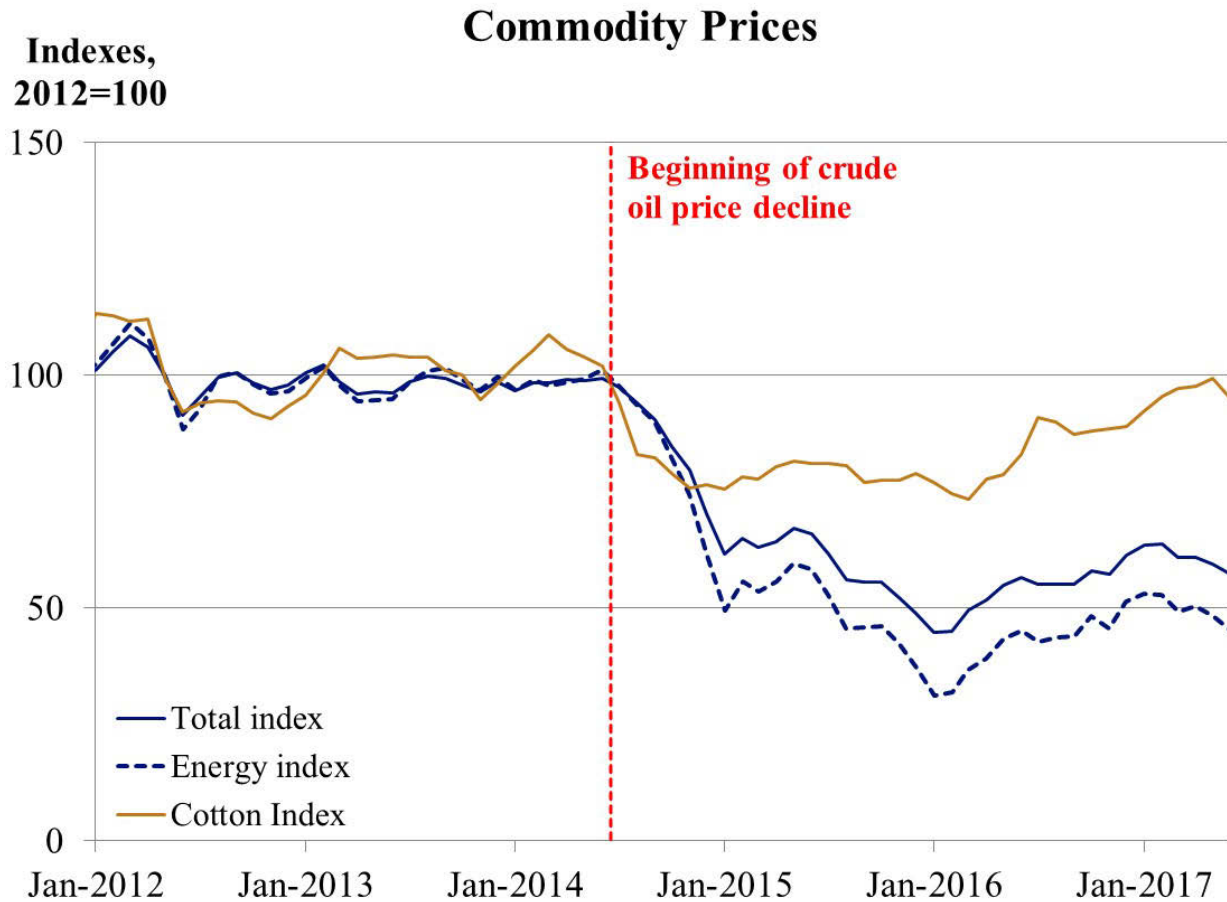
- Global commodity prices have an important impact on U.S. headline inflation.
- Crude oil prices, in particular, tend to influence the headline inflation rate. These prices are sensitive to perceived and actual supply and demand developments in the global crude oil market.
- The financialization of global commodity markets in recent years may have made many commodities, possibly including cotton, more highly correlated with oil prices than they otherwise would have been.

Financialization of global commodity markets?



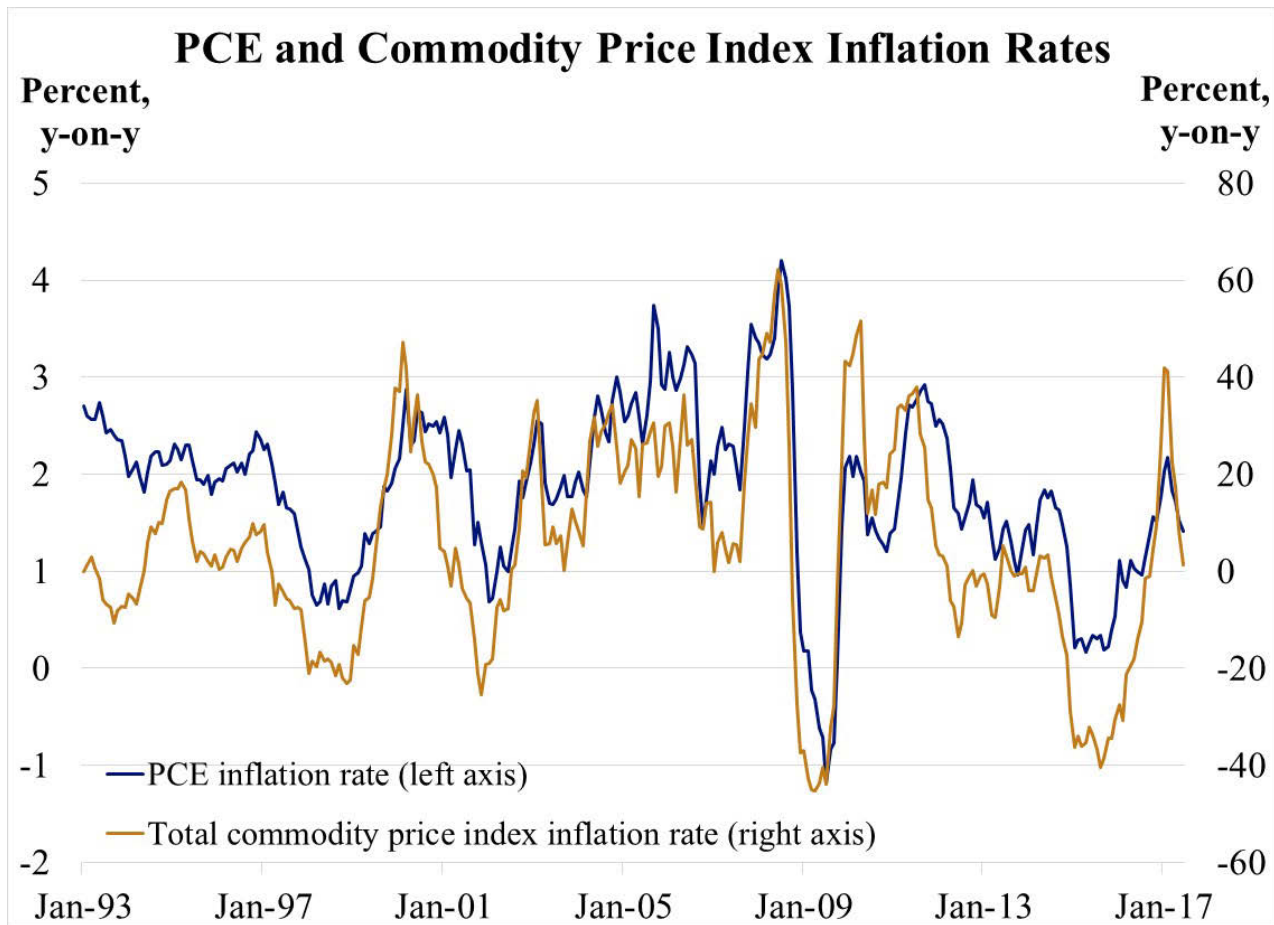
Source: International Monetary Fund. Last observation: June 2017.

Financialization and cotton?



Source: International Monetary Fund. Last observation: June 2017.

Commodity prices have been influencing headline consumer prices



Sources: Bureau of Economic Analysis, International Monetary Fund and author's calculations.
Last observation: June 2017.

Global Growth

The impact of better global growth prospects on the U.S. economy

- The global growth outlook has improved since last year.
- The International Monetary Fund (IMF) upgraded its world economic outlook for 2017.
- Key upgrades occurred for Japan, Europe and China.
- Nevertheless, these upgrades do not add up to a meaningful upgrade at the global level.
- The value of the U.S. dollar has declined in 2017, a consequence of the brighter growth outlook for Europe and expectations for a somewhat more hawkish European Central Bank (ECB).

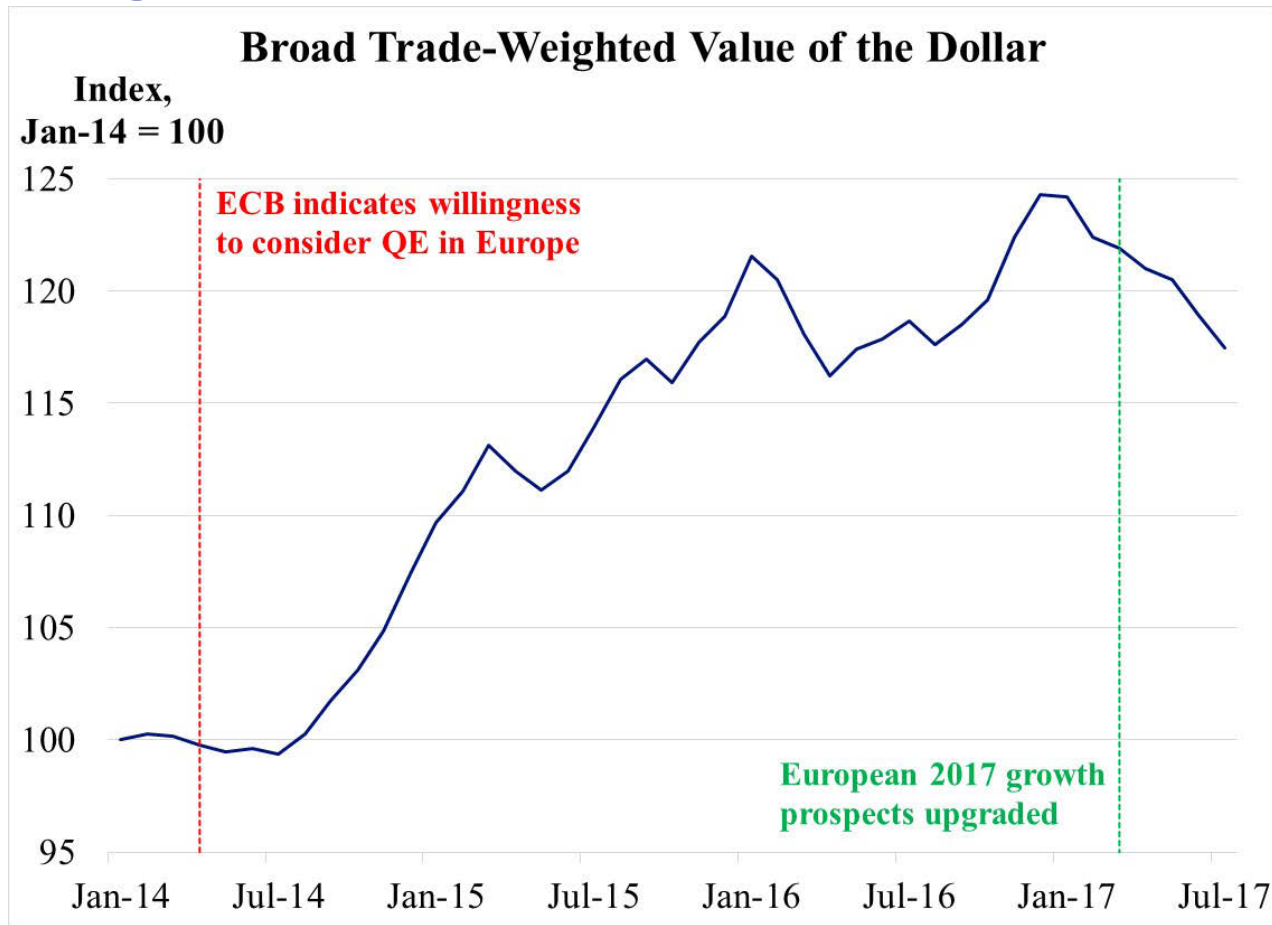
Global growth: Forecasts for 2017 have improved since last fall

2017 Real GDP Growth	Jul-2017	Oct-2016	Difference
World Output	3.5%	3.4%	0.1
U.S.	2.1%	2.2%	-0.1
Euro area	1.9%	1.5%	0.4
Japan	1.3%	0.6%	0.7
China	6.7%	6.2%	0.5

Differences are expressed in percentage points.

Source: International Monetary Fund, World Economic Outlook Update, July 2017.

European developments and dollar exchange rate



Sources: Federal Reserve Board and author's calculations. Last observation: July 2017.

Note: The green vertical line corresponds to the IMF's release of the World Economic Outlook, April 2017.

Does the Low U.S. Unemployment Rate Signal a Meaningful Rise in Inflation?

Unemployment is low

- The U.S. unemployment rate was 4.3 percent in the July reading.
- Does this mean that U.S. inflation is about to increase substantially?
- The short answer is no, based on current estimates of the relationship between unemployment and inflation.

The estimated influence of unemployment on inflation

- Let's consider one study, Blanchard (2016), which estimates a Phillips curve relationship for the U.S.*
- Let's suppose the unemployment rate continued to fall from current levels.
- How much would the inflation rate increase according to these estimates?

* See O. Blanchard, 2016, "The U.S. Phillips Curve: Back to the 60s?" Peterson Institute for International Economics, Policy Brief No. PB16-1.

The estimated influence of unemployment on inflation

If the unemployment rate was ...	The predicted core PCE inflation rate would be ...
4.3% *	1.5% *
4.0%	1.6%
3.5%	1.7%
3.0%	1.8%

** current value (July 2017 for unemployment, June 2017 for inflation)*

- Bottom line: Even if the U.S. unemployment rate declines substantially further, the effects on U.S. inflation are likely to be small.

Conclusion

Conclusion

- Recent data indicate that real U.S. GDP growth remains consistent with the low-growth regime of recent years.
- U.S. inflation has surprised to the downside in recent months.
- Low unemployment readings are probably not an indicator of meaningfully higher inflation over the forecast horizon.
- The current level of the policy rate is appropriate given current macroeconomic data.



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